**United States Environmental Protection Agency**
**Region X**
**POLLUTION REPORT**

**Date:** Friday, August 26, 2005
**From:** Daniel Heister, On-Scene Coordinator

**To:** Chris Field, EPA Region 10

**Subject:**
POLREP 2
North Ridge Estates 2005 Fund Lead Removal Action
3942 Old Fort Road, Klamath Falls, OR
Latitude: 42.2625
Longitude: -121.7446

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| **POLREP No.:** | 2 | **Site #:** | 10BT |
| **Reporting Period:** | August 15 through 20 | **D.O. #:** | 0035 |
| **Start Date:** | 8/9/2005 | **Response Authority:** | CERCLA |
| **Mob Date:** | 8/8/2005 | **Response Type:** | Time-Critical |
| **Completion Date:** | | **NPL Status:** | Non NPL |
| **CERCLIS ID #:** | ORN001002476 | **Incident Category:** | Removal Action |
| **RCRIS ID #:** | | **Contract #** | 68-S7-01-64 |

**Site Description**
North Ridge Estates is located approximately three miles north of Klamath Falls, Klamath County, Oregon, on Old Fort Road and North Ridge Drive. The North Ridge Estate site is formerly the Klamath Falls Marine Recuperational Barracks facility, built in 1944 by the United States Department of Defense. In 1946, the property was transferred to the State of Oregon for use by the Oregon Institute of Technology.

When the Oregon Institute of Technology relocated in 1966, the property was transferred into private ownership. From 1966 to the mid-1970s, the property owners sold some of the buildings (primarily the dormitories) to individual buyers, who stripped the vacant buildings of salvageable materials such as copper and wood.

The North Ridge Estate property was purchased in December 1977 by the MBK Partnership of Klamath Falls, the present property developer. When MBK purchased the property, many of the original buildings remained, including the largest site buildings (e.g., mess hall, vehicle maintenance, gymnasium, covered swimming pool, and steam plant). After purchasing the property, MBK began a facility-wide project to demolish the remaining buildings so that the property could be subdivided into residential lots.

MBK performed the demolition on a facility-wide scale by knocking over the buildings with the ACM in place. After salvageable building materials were recovered, the remaining demolition debris (including the ACM) was crunched up to reduce the size and then buried on site. Reportedly, asbestos insulation was stripped from piping and boilers, the metal was sold, and

the insulation was left on site. In the late 1970s, the Oregon Department of Environmental Quality (DEQ) responded to a complaint of openly accumulated asbestos debris at the property and observed a bulldozer driving over four to six acres of demolition debris. The report described a great amount of "white, fluffy" insulation material being blown around the site by strong winds.

In 1979, EPA discovered demolition debris believed to contain ACM on the property currently owned by MBK. Because this demolition debris was exposed and uncontained on the MBK-owned property, MBK was issued a compliance order by the EPA pursuant to Section 113 (a)(3) of the Clean Air Act regarding the requirement to develop a plan for disposal of ACM contained within demolition debris on September 17, 1979. The compliance order stated that MBK "failed to properly strip asbestos containing materials from the insulation pipes when the pipes became exposed as required." It further stated that "the company caused or permitted asbestos containing waste material to remain exposed, uncontained and undisposed of at the demolition site."

The compliance order required MBK to submit a plan addressing the ACM from "...the present demolition operation and all material remaining from previous demolition." The plan was to provide the EPA with a detailed description of the ACM disposal site. After proper disposal of the ACM, the order further required MBK to register the inactive waste site with Klamath County. In 2003, EPA was unable to identify any deed restrictions for ACM disposal sites at North Ridge Estates.

On April 13, 1993, a preliminary inspection, completed under the Defense Environmental Restoration Program, found that there were no hazardous conditions at the former Marine Recuperation Barracks. The memorandum stated that only two buildings, the warehouse and former brig, remained at the site. There is no reference to asbestos or ACM in the memorandum.

Currently, twenty-three of the lots in the project area have been sold and developed as single-family homes, and these homes have been occupied for residential use. Other undeveloped lots remain in private ownership or are owned by MBK.

In June of 2001, DEQ received a complaint of two large piles of asbestos insulated pipe on the surface of a lot being developed in North Ridge Estates. The DEQ inspector observed "white to pale brown colored platy looking" fragments on the lot and on other lots throughout the subdivision. An asbestos survey was conducted in 2002. Out of the 81 acres surveyed, over 50 acres contained ACM. In June 2002, DEQ and MBK entered into a Mutual Agreement and Order (MAO; Order No. AQ/AB-ER-01-250A). The MAO essentially provided for a survey of affected properties to identify visible ACM and outlined provisions and protocol for the removal of this material. In the summer of 2002 MBK reportedly removed approximately 50 tons of ACM from the surface of residential lots in the subdivision.

In the spring of 2003, after winter snows had melted away, additional ACM debris was observed on the ground, and in April 2003, DEQ referred the site to EPA Region 10. An Administrative Order on Consent (AOC) was signed by EPA Region 10 and MBK in May of 2003. Under the AOC a removal action was conducted by MBK and its contractors with close EPA oversight. Actions included: removal of visible surface ACM, identifying the extent and degree of asbestos contamination through extensive soil and air sampling, and identifying and mitigating further exposure through excavation or capping of burial pits and delineation of remaining buried steam line. A parallel and contemporaneous Streamlined Risk Assessment was conducted in cooperation with an EPA Region 10 toxicologist and MBK's asbestos consultant.

The responsible party-led removal action was carried out from June 2003 through August

2004. Approximately seven tons of visible ACM were removed by hand from the surface of occupied lots, approximately 77 tons of heavily contaminated soil were excavated, 13 potential burial locations were identified and stabilized, and several thousand linear feet of buried steam pipe were located. EPA did a limited survey of occupied lots in April 2004 and March 2005. When the surface pick up of the lots was completed in September of 2003 visible ACM was mostly nonexistent. As of the March 2005 survey, wind erosion, snow melt, foot traffic and frost heave are believed to have caused resurfacing of near-surface ACM..

On April 25, 2005, EPA signed an action memorandum implementing a voluntary relocation action for North Ridge Estates residents. Of the twenty-seven households that were deemed eligible, fifteen opted to be relocated from June 10, 2005, to September 10, 2005.

In June and July of 2005, the EPA Region 10 Removal Program and its contractors conducted a removal assessment on the site. During this assessment, workers encountered significant resurfacing of mag insulation and conducted separate abatement actions at three residences.

**Current Activities**

***August 15, 2005. OSC-1, PST-2, START-2, ERRS-3, Alpine Abatement-6. ERRS used a mini-excavator to remove soil from around a section of steam pipe that was protruding from the ground. ERRS excavated down three feet to the original grade of the steam pipe. The asbestos-containing material (ACM) mag insulation was carefully removed by Alpine asbestos workers for disposal, and the section of the steam pipe was cut at its original grade. All materials, including the excavated soil and the sections of steam pipe, were double-bagged for disposal as ACM waste. During the steam pipe removal, START collected upwind and downwind air samples for asbestos testing.

Alpine abatement workers also continued to perform surficial cleanup of ACM mag and Air Cell insulation on a property-by-property basis. After each property was completed by the asbestos workers, the OSC, PST, and/or START "cleared" the property by surveying the surface for mag or Air Cell. Any additional mag or Air Cell was flagged for future cleanup by the asbestos workers.

***August 16, 2005. OSC-1, PST-2, START-2, ERRS-3, Alpine Abatement-6. ERRS and Alpine abatement workers sealed the steam pipe with concrete and then backfilled the excavation with clean fill. Alpine abatement workers continued to perform surficial cleanup on a property-by-property basis, followed by a clearance survey performed by the OSC, PST, and/or START.

***August 17 through 19, 2005. OSC-1, PST-2, START-2, ERRS-2, Alpine Abatement-6. On August 17, the OSC and START presented a progress report of EPA's removal action and procedures for the end of the temporary relocation to residents of North Ridge Estates and the Klamath Falls community at a public meeting.

The cleanup of surficial mag and Air Cell ACM continued at each property until all target properties were cleared. By Friday, August 19, each of the 30 target properties was cleaned and cleared of visible surficial mag and Air Cell. Additionally, EPA also cleaned surficial mag and Air Cell from some undeveloped lots located near residences. At the completion of the surficial cleanup, abatement workers had picked up over 300 pounds of friable ACM from the site.

On Friday, August 19, ERRS and Alpine Abatement demobilized from the site.

**Planned Removal Actions**

The removal action is being performed as a surficial cleanup of friable ACM (mag and Air Cell insulation) from each target property in the subdivision. Prior to surficial cleaning, the OSC, PST, and/or START surveys a property to identify areas of friable ACM contamination. These areas are flagged, and then the abatement crew sytematically walks the property to pick up the contamination. Once known areas of contamination are cleaned up, the abatement crew will also walk the remainder of the property to search for and pick up any mag and Air Cell insulation. After the abatement crew has completed the cleanup of the property, the OSC, PST, and/or START returns to the property to clear it. If additional contamination is found, the abatement crew returns and cleans it again. This cleaning / clearing process continues until no mag or Air Cell insulation is seen.

**Next Steps**

EPA plans to apply an encapsulant to four specific areas that have shown a significant amount of mag or Air Cell insulation. In these areas, mag or Air Cell has either been observed to extend below the surface or is intermingled with debris to such a degree that it is difficult to pick-up without soil excavation. ERRS and Alpine Abatement will order an encapsulant specifically designed to bind with asbestos fibers in soil, and the material will be applied to the specific areas as a protective barrier.

The OSC, PST, and START will stay on site to oversee the end of the relocation and to monitor the site for any resurfacing friable mag or Air Cell.

**Key Issues**

This week, the abatement crew saw rattlesnakes and a mountain lion in the subdivision. After each incident, the site crew had a meeting to address safety issues relative to these animals. ERRS ordered snake chaps for the crew to wear when working in areas with high grass.

www.epaosc.org/North_Ridge_Estates_2005